

branches to erect themselves or in other cases to develop, though they have the same tendency to do so as he; their geotropism or their power of growth is held in check by his own. Suppress the apex, let it die or become enfeebled, and the subjugated branches lift their heads. Several could erect themselves and take the lead, and that is sometimes observed. But ordinarily a new conflict for precedence occurs among the branches; the one nearest the apex or the most vigorous near one early asserts its supremacy and in its turn keeps its rivals at its feet. *Cf.* the independent and almost simultaneous proposal of the like idea by McCALLUM, *BOT. GAZETTE* 40: 262. Oct. 1905.—C. R. B.

Ecological survey.—PETHYBRIDGE and PRAEGER²⁰ have added another vegetation map and ecological description to the list of vegetation surveys of the British Isles. The area discussed lies south and west of Dublin. After a historical introduction the geology, physiography, floristics, and survey methods are briefly explained. The vegetation is divided primarily into littoral, agrarian, hill-pasture, and moorland zones, and the woodlands. The zones are further subdivided into associations. These are described in detail and as far as possible related to the factors determining their occurrence. The text is accompanied by a map and five excellent plates of vegetation types. The paper will prove of especial interest to those who have followed the work of R. SMITH, W. SMITH, and LEWIS in Scotland and England.—E. N. TRANSEAU.

Alternation of generations in animals.—In criticism of CHAMBERLAIN's paper on this subject²¹ LYON²² holds that the phylogeny of animal gametes gives no evidence of their being reduced or vestigial generations, comparable with the gametophytic generation in plants; similarity of cytological processes does not prove identity of morphological value in the two cases. He refers to the alternation in Hydrozoa, and calls attention to the earlier proposal by BEARD and MURRAY of a theory similar to CHAMBERLAIN's. In reply CHAMBERLAIN maintains²³ that his critic fails to distinguish between a gametophytic generation and a gametophytic plant. He holds that the generations in Hydrozoa do not alternate in the botanical sense, and points out that although reduction of the gamete-bearing generation has not been proved for animals, there is strong evidence for its having occurred in plants.—M. A. CHRYSLER.

Mechanics of secretion.—PANTANELLI²⁴ has attempted to ascertain whether or not true secretion of enzymes occurs. He defines secretion as "the emission

²⁰PETHYBRIDGE, G. H. and PRAEGER, R. L., The vegetation of the district lying south of Dublin. *Proc. Roy. Irish Acad. B.* 25: 124-180. 1905.

²¹*BOT. GAZETTE* 39: 137-144. 1905.

²²LYON, H. L., Alternation of generations in animals. *Science N. S.* 21: 666-667. 1905.

²³CHAMBERLAIN, C. J. Alternation of generations in animals. *Science N. S.* 22: 208-211. 1905.

²⁴PANTANELLI, E., Meccanismo di secrezione degli enzimi. *Annali di Bot.* 3: 113-142. 1905.